01-11-07

PATENT
450100-04486

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant(s)	:	Yasushi TAKAHASHI et al.
Serial No.	:	09/078,853
For	:	**INFORMATION RETRIEVAL METHOD AND APPARATUS**
Filed	:	May 14, 1998
Examiner	:	Rueben M. Brown
Art Unit	:	2623
Confirmation No.	:	5690

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Sir:

This is an Appeal from the Office Action issued by the Examiner dated July 3, 2006, in the above-identified application, rejecting claims 15-20. A Notice of Appeal was filed on

November 10, 2006. This Brief is submitted in accordance with 37 C.F.R. §41.37. Appellants submit herewith a check in the amount of $500.00. The Commissioner is authorized to charge any additional fee, or credit any overpayment for this paper, to Deposit Account No. 50-0320.

1. REAL PARTY IN INTEREST

The real party in interest is Sony Corporation, a Japanese Corporation with offices at 7-35 Kitashinagawa 6-chome, Shinagawa-ku, Tokyo, 141-0001 Japan,. The assignment of this application is recorded in the United States Patent and Trademark office at Reel 013968; Frame 0221.

2. RELATED APPEALS AND INTERFERENCES

Upon information and belief, the undersigned attorney does not believe that there is any appeal or interference that will directly affect, be directly affected by or have a bearing on the Board's decision in the pending appeal.

3. STATUS OF THE CLAIMS

The Application was filed with claims 1-14 on May 14 1998, and assigned Application Serial No. 09/078,853. This application claims the benefit of Japanese Patent Application No. 8-334978, filed on November 29, 1996.

The Examiner issued an Office Action on March 29, 2002 rejecting claims 1-14. On September 26, 2002, Applicants filed a reply canceling claims 2 and 8 and amending claims 1 and 7.

The Examiner issued a Final Office Action on December 18, 2002 rejecting claims 1, 3-7 and 9-14. On June 16, 2003, Applicants filed a Request for Continued Examination with an amendment amending claims 1 and 7.

The Examiner issued an Office Action on July 2, 2003 rejecting claims 1, 3-7 and 9-14. On September 29, 2003, Applicants filed a reply amending claims 1 and 7.

The Examiner issued a Final Office Action on January 2, 2004 rejecting claims 1, 3-7 and 9-14. On April 1, 2004, Applicants filed a reply canceling claims 3, 5-6 and 11-13 and amending claims 1 and 7.

The Examiner issued an Advisory Action on May 19, 2004. The amendment of April 1, 2004 was not entered. On June 16, 2003, Applicants filed a Request for Continued Examination requesting entry of amendment filed April 1, 2004.

The Examiner issued an Office Action on July 27, 2004 rejecting claims 1, 4, 7, 9-10 and 14. On January 24, 2005, Applicants filed a reply canceling claims 1, 4, 7, 9-10 and 14 and adding new claims 15-20.

The Examiner issued a Final Office Action on June 17, 2005 rejecting claims 15-20. On December 14, 2005, Applicants filed a Request for Continued Examination with an amendment amending claims 15 and 17.

The Examiner issued an Office Action on March 9, 2006 rejecting claims 15-20. On June 2, 2006, Applicants filed a reply amending claims 15 and 17.

The Examiner issued a Final Office Action on July 3, 2006 rejecting claims 15-20. On August 14, 2006, Applicants filed a reply presenting only arguments without amending the claims.

The Examiner issued an Advisory Action on October 10, 2006.

A Notice of Appeal was filed by Appellants on November 10, 2006, from which this Appeal Brief is being filed.

Accordingly, the status of the claims is summarized as follows:

Claims Allowed:	None.
Claims Rejected:	15-20.
Claims Appealed:	15-20.

The rejected claims 15-20 are set forth in the Appendix attached hereto.

Appellants appeal the Final Rejection of claims 15-20.

4. STATUS OF THE AMENDMENTS

Appellants believe that all the submitted Amendments to the claims have been entered.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

The citations to Figures and Specification locations are provided immediately following elements of independent claims 15 and 17, which are summarized below. However, such citations are provided merely as examples and are not intended to limit the interpretation of the claims or to evidence or create any estoppel. There are two independent claims (claims 15 and 17) on appeal in the instant application.

Independent claim 15 is directed to an information retrieval method for retrieving information from an electronic program guide (EPG) suiting a specific user. A general user model is formed that includes a general user taste data based on statistical data of the actions of a plurality of users. The statistical data is based on characteristics such as genre and life-scenes.

The general model includes general user selection taste data. Each user is classified according to various individual characteristics of the user (described in the specification on pages 13-20).

An initial user model is for a specific user is formed based on the general user selection model and a profile input for the specific user (described in the specification on pages 21-31). A study user model is formed based on the initial user model and the actual selection history of the specific user (described in the specification on pages 32-33).

Information suiting the specific user is retrieved based on the study user model by calculating a genre taste value that is based on a request time for the EPG. The genre taste value, in turn, is calculated using a life-scene/time function representing a relationship between the life-scene that corresponds to the request time and a time-variable coefficient. The time-variable coefficient is determined by a linear interpolation of the request time and defining a value for said life-scene/time function. The EPG is rearranged and displayed based on a genre priority table formed using the retrieved information and the calculated genre taste value (described in the specification on pages 34-35). The general user selection taste data is dispersed data, including time related data, that is interpolated into continuous data by an interpolation method specified by an interpolation control identification key (described in the specification on page 26).

Independent claim 17 is in means-plus-function format and directed to an information retrieval apparatus that includes general user model forming means (11) for forming a general user model based on statistical data obtained by audience research on the actions of a plurality of users (described in the specification at page 11, line 24 to page 12, line 24; and in FIGS. 2 and 3) at page 13, line 23 to page 14, line 20; and in FIGS. 2 and 3); said general user model (described

in the specification at page 13, line 23 to page 14, line 20; and in FIGS. 2 and 3) having general user selection taste data; said statistical data including an audience rating for each of a plurality of genres, a plurality of life-scenes, and wherein each user is classified according to various characteristics including at least an age, a sex, and life-scene (described in the specification at page 14, line 9 to page 15, line 15; and in FIGS. 5 and 10); input means (12) for inputting a user profile for a specific user (described in the specification at page 12, lines 8-24 and in FIGS. 2 and 3); initial user model forming means (13) (described in the specification at page 12, lines 7-8) and in FIGS. 2 and 3) for forming an initial user model for said specific user based on said general user selection data and said user profile (described in the specification at page 22, line 13 to page 24, line 7; and in FIGS. 19 and 22); study user model forming means (14) for forming a study user model (described in the specification at page 12, lines 2-6 and in FIGS. 2 and 3) on the basis of said initial user model and an information selection history for said specific user (described in the specification at page 32, line 22 to page 34, line 13; and in FIGS. 28A and 28B); retrieving means (16) for retrieving information suiting said specific user (described in the specification at page 12, lines 11-13; and in FIGS. 2 and 3) based on said study user model by calculating a genre taste value based on a request time for an electronic program guide (EPG); said genre taste value being calculated using a life-scene/time function representing a relationship between the life-scene corresponding to the request time and a time-variable coefficient, said time-variable coefficient being determined by a linear interpolation on the basis of the request time and defining a value for said life-scene/time function (described in the specification at page 26, line 3 to page 31, line 9; and in FIGS. 24-26); and display means (4) for rearranging and displaying the EPG (described in the specification at page 12, line 25 to page 13, line 6; and in FIGS. 1 and 3) based on a genre priority table formed using the retrieved

information and the calculated genre taste value (described in the specification at page 31, line 10 to page 32, line 8; and in FIG. 27), wherein said general user selection taste data is dispersed data, including time related data, that is interpolated into continuous data by an interpolation method specified by an interpolation control identification key (described in the specification at page 26, lines 3-25 and in FIGS. 23-24).

Dependent claim 18 includes storing means (18) for storing said general user selection taste data as the continuous data is converted into dispersed data (described in the specification at page 12, lines 2-6 and in FIGS. 2 and 3).

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellants request review of the rejections, specifically:

A. Claims 15-20 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,758,257 to Herz et al. (hereinafter, merely "Herz").

7. ARGUMENTS

A. THE §103 REJECTION SHOULD BE WITHDRAWN BECAUSE HERZ DOES NOT TEACH OR SUGGEST EACH AND EVERY ELEMENT RECITED IN THE CLAIMS

1) Herz does not disclose time-variable coefficients used to calculate genre taste values of the present application.

Independent claim 15 is representative and recites, *inter alia*:

retrieving information suiting said specific user based on said study user model by calculating a genre taste value based on a request time for an electronic program

guide (EPG); said genre taste value being calculated using a life-scene/time function representing a relationship between the life-scene corresponding to the request time and a time-variable coefficient, said time-variable coefficient being determined by a linear interpolation on the basis of the request time and defining a value for said life-scene/time function.

The Examiner's rejections in the Final Office Action of July 3, 2006 fail to specify any element of Herz which meets the "genre taste value." On page 5 of the office action, the Examiner addresses this limitation but fails to specify any portion of the specification which teaches a "genre taste value." The genre taste value as recited in claim 15 is a value derived from the life scene/time function which itself is the product of the life scene, the time, and a time-variable coefficient. The relied upon portions of Herz do not teach a genre taste value which is derived from the foregoing factors.

The closest analogous element described by Herz to the genre taste value of the instant application would be the satisfaction factor (sf). It is submitted that this "genre taste value" is similar in nature to the satisfaction factor (sf) in that satisfaction factor provides a value for determination of how well a program fits within parameters specified by the user. However, unlike the genre taste value, there is no teaching in Herz of the components that make up the satisfaction factor. Indeed, satisfaction factor (sf) is best understood to be an arbitrary value that may even be assigned by the user.

The Examiner appears to rely on the satisfaction factor (sf) to teach the time-variable coefficient as recited in claim 15. But at section 1 of the Final Office Action, the Examiner contends that Herz's variables "l" and "u" are time-variable coefficients. It is unclear whether the Examiner is arguing that "sf" is a time-variable coefficient, or if it is "l" and "u." Nevertheless it is submitted that the satisfaction factor (sf) does not correspond to the time-

variable coefficient but rather, at best, to the "genre taste value" recited in claim 15, and described in the specification on page 27 is also referred to as an "audience rating."

Moreover, as explained above, a time-variable coefficient, as described in the specification, is a value between 0 and 1 which varies depending upon the specific point in time that is being considered. The specification on pages 27-28, along with Fig. 25B describes the use of the time-variable coefficient at the time point 20:40, where the time-variable coefficient was 0 at 20:00 and 1 at 21:00. According to the equation on page 28, the time-variable coefficient is 40/60 or .66 at 20:40. This value is used in the equation to solve for genre taste value (F_{20}) at 20:40.

In contrast, the satisfaction factor (sf) of Herz has a base of 1 and "increases as the time window narrows." Col. 18, lines 9-10. Further, Herz describes (sf) as having a maximum value for the "most specific window, which is two hours wide." As shown by the foregoing example from the present application, and as recited in the specification the time-variable coefficient of the instant application is not limited to a two-hour window, but may be used to determine the minute by minute genre taste value. Still further, the time-variable coefficient is between 0 and 1 rather than having a base of 1 and increasing from there as the (sf) does in Herz.

In the Advisory Action of October 10, 2006, the Examiner pointed to "f" (punishment factor) as the time-variable coefficient. However, "f" is a function of the time distance between the user's desired time-window and an actual time window. "f" is the dissatisfaction a user has because the user has missed the start of a desired program. This simply is unrelated to the time-variable coefficient of the present application that affects the Genre Taste Value based upon the time an EPG is requested within the time window of the desired program. Regardless, the

Examiner did not make this argument in the Final Office Action and, as such, Applicants had no opportunity to respond.

Thus, claims 15-20 are directed to an apparatus and method that include time-variable coefficients used to calculate genre taste values, which are not taught or suggested in Herz.

2) Herz does not disclose linear interpolation of the time-variable coefficients

Claims 15 and 17 recite "said time-variable coefficient being determined by a linear interpolation on the basis of the request time and defining a value for said life-scene/time function."

The present invention utilizes linear interpolation to determine a time-variable coefficient value. The time variable aspect of this coefficient value depends upon the specific time at which the user requests the electronic program guide. This value is then used in conjunction with the life-scene/time function to determine a genre taste value.

In the Office Action of October The Examiner contends "Herz teaches that the start or end time of a mood window maybe a subset of another mood window" and that this evidences "linear interpolation." However, these mood windows the Examiner points to define ranges of time not a specific coefficient value, thus even if one mood is a subset of another, the subset does not meet the linear interpolation element of the instant claims as defined in the instant application which requires determination of a specific value. The mood ranges described by Herz have a hierarchy whereby the most specific hierarchy is utilized when two or more moods overlap. Meaning that even if each of these two moods provided a "value" the value used in the device of Herz would be one associated with whichever of the two moods had priority. It is

respectfully submitted that this is not linear interpolation. Linear interpolation is a process of calculating unknown values from known values when one can assume a constant rate of change. That the inventors intended this common definition for linear interpolation can be ascertained by reference to page 27 of the application where linear interpolation is discussed.

In the Advisory Action of October 10, 2006, the Examiner asserts "time variable coefficient determined by linear interpolation corresponds with the discussion in Herz that the value of 'sf' can be found using linear interpolation for windows of greater widths than a specific window that for example has its value 'sf' set to a maximum value." The Examiner is asserting that Herz uses linear interpolation of the "satisfaction factor" (sf). However, as discussed above in paragraph A1, the "satisfaction factor" of Herz is not the time-variable coefficient of the present application. Therefore, Herz does not disclose linear interpolation of the time-variable coefficients as recited in the claims of the present application.

Accordingly, Herz fails to meet the "time-variable coefficient being determined by a linear interpolation on the basis of the request time and defining a multiplier value for said life-scene/time function" limitation as recited in the present claims.

3) The Examiner incorrectly equates the "as" value in Herz equation 13 to the Genre Taste Value of the present application.

In the Advisory Action of October 10, 1006, the Examiner, presents alleged correspondences between elements of the Herz reference and the present application. Some of the correspondences are presented for the first time or differ from previously alleged correspondences. Thus, the Applicants have not had a chance to respond.

However, the Genre Taste Value of the present invention is derived from the life scene/time function, which is a product of the life scene, time and time-variable coefficient.

In contrast, Herz's value "as" is derived from the alleged corresponding value $f(l_i, u_i, l_j, u_j)$, which, in turn, is not a product of mood window, time and "f." Thus, the alleged correspondences of Herz do not result in the limitations recited in the present application.

CONCLUSION

For the reasons discussed above, claims 15-20 are patentable. It is, therefore, respectfully submitted that the Examiner erred in rejecting claims 15-20, and a reversal by the Board is respectfully solicited.

Respectfully submitted,
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APPENDIX I
CLAIMS ON APPEAL

Claim 15. (Currently Amended) An information retrieval method, comprising the steps of:

forming a general user model based on statistical data obtained by audience research on the actions of a plurality of users; said general user model having general user selection taste data; said statistical data including an audience rating for each of a plurality of genres, a plurality of life-scenes, and wherein each user is classified according to various characteristics including at least an age, a sex, and a life-stage;

inputting a user profile for a specific user;

forming an initial user model for said specific user based on said general user selection data and said user profile;

forming a study user model on the basis of said initial user model and an information selection history for said specific user;

retrieving information suiting said specific user based on said study user model by calculating a genre taste value based on a request time for an electronic program guide (EPG); said genre taste value being calculated using a life-scene/time function representing a relationship between the life-scene corresponding to the request time and a time-variable coefficient, said time-variable coefficient being determined by a linear interpolation on the basis of the request time and defining a value for said life-scene/time function; and

rearranging and displaying the EPG based on a genre priority table formed using the retrieved information and the calculated genre taste value;

wherein said general user selection taste data is dispersed data, including time related data, that is interpolated into continuous data by an interpolation method specified by an interpolation control identification key.

Claim 16. (Previously Presented) The information retrieval method according to claim 15, wherein said interpolation method is a method of interpolating in accordance with a user attribute and/or a state of information utilization.

Claim 17. (Currently Amended) An information retrieval apparatus, comprising:

general user model forming means for forming a general user model based on statistical data obtained by audience research on the actions of a plurality of users; said general user model having general user selection taste data; said statistical data including an audience rating for each of a plurality of genres, a plurality of life-scenes, and wherein each user is classified according to various characteristics including at least an age, a sex, and life-scene;

input means for inputting a user profile for a specific user;

initial user model forming means for forming an initial user model for said specific user based on said general user selection data and said user profile;

study user model forming means for forming a study user model on the basis of said initial user model and an information selection history for said specific user;

retrieving means for retrieving information suiting said specific user based on said study user model by calculating a genre taste value based on a request time for an electronic program guide (EPG); said genre taste value being calculated using a life-scene/time function representing

a relationship between the life-scene corresponding to the request time and a time-variable coefficient, said time-variable coefficient being determined by a linear interpolation on the basis of the request time and defining a value for said life-scene/time function; and

display means for rearranging and displaying the EPG based on a genre priority table formed using the retrieved information and the calculated genre taste value;

wherein said general user selection taste data is dispersed data, including time related data, that is interpolated into continuous data by an interpolation method specified by an interpolation control identification key.

Claim 18. (Previously Presented) The information retrieval apparatus according to claim 17, further comprising storing means for storing said general user selection taste data as the continuous data is converted into dispersed data.

Claim 19. (Previously Presented) The information retrieval apparatus according to claim 18, wherein said storing means stores the identification key for specifying said interpolation method, together with said dispersed data.

Claim 20. (Previously Presented) The information retrieval apparatus according to claim 18, further comprising rewriting means for rewriting the general user selection taste data of said storing means onto another storing means.

APPENDIX II

EVIDENCE

None

APPENDIX III

RELATED PROCEEDINGS

None